

Abstract

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2. A method for verifying the safety properties of Java byte code programs
- 2.1 The technical objective is directed to a method which will ensure a greatest possible security in verifying the safety properties of byte code programs.
- 2.2 In accordance with the present invention, the method of functioning of the byte code program to be verified is modeled on a finite state transition system M, and the state space of the JVM on a finite set of states in M. Once entered into a model checker, the data of finite state transition system M are compared to the data entered in the model checker as conditional set S to determine properties characterizing an acceptable byte code program. The byte code program to be checked is only released for further processing when the state transition system M fulfills all conditions of conditional set S.
- 2.3 The safety of byte code programs can be guaranteed by using the described technique, and a certain functionality can be assured through additional upgrades. This gives one greater confidence in applications designed to be run on platforms that are critical to safety, such as smart cards.